

Remarks

Claims 1 and 6 have been amended. No new matter has been added by way of these amendments.

Drawing Objections

Applicant disagrees with the Examiner's objection regarding the drawings having blank boxes that are not numbered. More specifically, every blank box of Figures 1 and 4 is numbered. Figure 5 labels most of its geographical shapes and is easily understood by the skilled reader in conjunction with the associated description.

Claim Objections

Claim 6 has been amended to replace "the propagating" with "propagating" in line with the examiner's suggestion.

Rejection under 35 USC 102

Applicant has amended claim 1 so as to emphasize the difference over Dubinsky (US 6,470,275), which is the latest reference relied on by the examiner.

Claim 1 recites a number of method steps, which the examiner asserts are disclosed in Dubinsky, but claim 1 has been amended to recite that said steps are performed by the same logging tool.

This is wholly different from Dubinsky, which incorporates by reference the teaching of Woodward (US 5,001,675). Specifically, column 6 lines 5-18 of Dubinsky incorporates the teaching of Woodward as an example of a 'resistivity measuring device' (see col. 6 line 2). The examiner also then refers to a separate passage at column 6 lines 25-52 of Dubinsky, which

describes an ‘acoustic sensing device’ (see line 36). Thus the two passages of Dubinsky relied on by the examiner refer to separate devices, a resistivity measuring device and an acoustic sensing device.

There is no suggestion in Dubinsky as to how, or indeed if, these separate devices should be combined into a single logging tool as claimed. If anything Dubinsky teaches the opposite in describing a preference for the downhole assembly to be modular in construction (col 5 lines 55-56), that the acoustic device may be located at any suitable location in the downhole assembly (col 6 lines 36-38), and describing portions of the downhole assembly (see col 7 lines 20-23).

Thus, in Dubinsky different devices are performing different measurements. There is no disclosure of a logging tool capable of performing a processing step combining these two types of measurements, i.e. seismoelectric and electroseismic.

Rejection under 35 USC 103

Examiner has rejected dependent claim 4 as being obvious over Dubinsky in view of Tamarchenko (US 5,809,458). Applicant asserts that this objection has been overcome in light of the aforementioned difference of claim 1 over Dubinsky.

Specifically Dubinsky appears to refer to two different tools, but does not disclose any technical solution for building a single tool. It would not have been obvious to a person skilled in the art to perform two different measurements on a single tool or more importantly, to combine them. It is advantageous to have an array of receivers for performing both measurements (seismoelectric and electroseismic) at the same location and source for both types of excitation at substantially the same location. The combination helps accurately determine in the properties of the formation at a particular location.

There is no teaching in either Dubinsky, Tamarchenko or any of the citations relied upon of developing a single logging tool that is capable of combining both seismoelectric and electroseismic measurements as recited in both claims 1 and 12 of the present invention.

Applicant is of the opinion that this reply is fully responsive to all outstanding issues.

Accordingly, the application is now deemed to be in condition for allowance, and notice to that effect is solicited. This paper is submitted in response to the Office Action mailed 23 January 2009 for which the three-month date for response was 23 April 2009. Pursuant to 37 C.F.R. § 1.136(a), Applicants petition for an extension of time of two months in which to respond to the Office Action. This three month extension will bring the deadline for response to 23 June 2009, which is within the six-month statutory period.

Please apply any charges not covered, or any credits, to Deposit Account 50-2183 (Reference Number 21.1135).

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Respectfully submitted,

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